
Supplementary Table 1: Simulation results for three methods based on 100 simulations when $\rho = 0.5$.

Method	Bias	Empirical SE	Aver. Nonzeros	Proportion of Correct-fit
<i>n = 200, p = 500, $\beta_1 - \beta_{20}$</i>				
SSA	21.82 (0.32)	3.70 (0.25)	19.37 (0.49)	0.38
B-lasso	0.01 (0.04)	0.41 (0.03)	19.73 (0.55)	0.79
PB-lasso	0.00 (0.03)	0.42 (0.03)	19.99 (0.11)	0.99
<i>n = 200, p = 500, $\beta_{21} - \beta_{500}$</i>				
SSA	0.46 (0.05)	0.44 (0.07)	0.05 (0.22)	0.95
B-lasso	0.00 (0.00)	0.03 (0.01)	0.16 (0.24)	0.94
PB-lasso	0.00 (0.00)	0.01 (0.01)	0.29 (0.38)	0.78
<i>n = 200, p = 1000, $\beta_1 - \beta_{20}$</i>				
SSA	21.94 (0.37)	3.88 (0.32)	13.32 (0.47)	0.33
B-lasso	0.03 (0.04)	0.40 (0.03)	19.50 (0.64)	0.58
PB-lasso	0.00 (0.03)	0.42 (0.03)	19.99 (0.11)	0.98
<i>n = 200, p = 1000, $\beta_{21} - \beta_{1000}$</i>				
SSA	0.43 (0.05)	0.43 (0.06)	0.03 (0.11)	0.97
B-lasso	0.00 (0.01)	0.02 (0.01)	0.00 (0.00)	0.99
PB-lasso	0.00 (0.00)	0.00 (0.01)	0.10 (0.20)	0.92
